

REMARKS

Claims 1-16 are currently pending in the application, with claims 1 and 8 being independent. Applicants have amended claim 3 to address a minor informality. Applicants request the Examiner to reconsider the rejections set forth in the Office Action in light of the following remarks and claim amendments, and earnestly seek timely allowance of the pending claims.

Allowable Subject Matter

The Examiner again indicated that claims 4, 5, 12, and 13 were directable to allowable subject matter, but were objected to as depending upon rejected base claims. Applicants appreciate the Examiner's indication of allowable subject matter.

Claim Objections

The Examiner indicated that claim 3 is objected to because of informalities. Specifically, the Examiner asserts that "said plurality of resonant circuit" and "said transmission line" should be corrected to "said plurality of resonant circuits" and "said transmission lines", respectively. Applicants have amended herewith claim 3 to recite "said plurality of series resonant circuits" and "said transmission line... ." Applicants submit that this claim amendment does not alter the scope of claim 3 and is merely made to address a typographical error. Moreover, Applicants submit that "said transmission line" should remain singular as its antecedent stems from a singular transmission line included in said jump coupling circuit. Applicants therefore respectfully request the Examiner to withdraw the objection to claim 3.

Claim Rejection – 35 USC §102

The Examiner rejected claims 8, 9, 11, 14, and 15 under 35 USC 102(a) as being anticipated by "Dielectric Resonator Elliptic-Function Band Rejection Filter with External Coupling Waveguide" to Uchida et al. ("Uchida I").

Applicants provide concurrently with this reply a declaration establishing that Uchida I is an improper reference for a §102(a) rejection, thus removing Uchida I as a basis for anticipation

and rendering the rejection moot. Applicants therefore respectfully request the Examiner withdraw the rejection of claims 8, 9, 11, 14, and 15.

The declaration attached herewith is unsigned; however a signed declaration will be timely submitted to the Patent Office once all of the inventors have had the opportunity to sign.

The Examiner maintained the rejection of claims 1, 2, and 6 under 35 USC §102(a) as being anticipated by “Ku-band elliptic function band rejection filter with dielectric resonators” to Uchida et al. (“Uchida II”).

As in the rejection above, Applicants provide concurrently with this reply a declaration establishing that Uchida II is an improper reference for a §102(a) rejection, thus removing Uchida II as a basis for anticipation and rendering the rejection moot. Applicants therefore respectfully request the Examiner withdraw the rejection of claims 1, 2, and 6.

The Examiner rejected claims 1, 2, and 6 under 35 USC §102(b) as being anticipated by U.S. Patent No. 4,477,785 to Atia (“Atia”). Applicants submit the Examiner has failed to establish a *prima facie* case of anticipation and traverse this rejection.

Atia merely discloses a generalized dielectric resonator filter for the realization of general transfer function characteristics of band-pass filters. These band-pass filters use cylindrical dielectric resonator disks in a microstrip transmission line configuration (abstract). Specifically, Atia discloses a dielectric resonator filter structure that is capable of realizing most general band-pass transfer functions. Atia further discloses an equivalent circuit of microstrip coupled dielectric resonators in Fig. 6a. The equivalent circuit includes a series resonator circuit consisting of C1, L1 connected to another series equivalent circuit through a waveguide element L. The other terminal of the circuit is not a common connection as it has an impedance C0 interposed between the negative terminals of the first series resonant circuit C1, L1 and the second resonant series circuit L2, C2. In other words, series circuit C1, L1 and series circuit L2, C2 do not share a common terminal.

Accordingly, as recited in claim 1, Atia fails to disclose, at least, “a plurality of series resonant circuits with one set of end terminals having a common connection...” (Emphasis added.)

Applicants submit that Atia is distinguished by the present invention in that both the equivalent circuits used to describe Atia’s filter have different circuit topologies than the features recited above in claim 1.

Claims 2 and 6 depend from claim 1 and are allowable at least by virtue of their dependency from allowable claim 1. Applicants respectfully request the Examiner withdraw the 102 rejections of claims 1, 2, and 6.

Claim Rejections – 35 USC §103

The Examiner rejected claims 8, 9, 11, 14, and 15 under 35 USC §103(a) as being unpatentable over Uchida II in view of Uchida I.

As presented above, Uchida I and Uchida II fail to establish a proper basis for a §102(a) rejection. Moreover, Uchida I and II are not proper references an anticipation rejection under any other section under 35 U.S.C. §102, and thus cannot be used for a §103(a) rejection. Accordingly, the §103 rejection is moot and Applicants respectfully request the Examiner withdraw the obviousness rejection of claims 1, 2, and 6.

The Examiner rejected claims 3 and 7 under 35 USC 103(a) as being unpatentable over Atia in view of US Patent No. 5,184,096 to Wakino et al. (“Wakino”). Applicants disagree and respectfully traverse this rejection.

Claim 3 depends from claim 1 and includes all the features recited therein by virtue of its dependency. As provided above, Atia fails to teach or suggest all the features recited in claim 8.

Wakino fails to cure the deficiencies of Atia in this respect. Wakino merely shows a parallel connection multi-stage band-pass filter including an input terminal and an output terminal for signals, a plurality of resonators respectively having resonator frequencies different from and close to one another which are dielectrically connected in parallel to each other between said input and output terminals (abstract).

Accordingly, Applicants respectfully request that the Examiner withdraw the rejections of claims 3 and 7.

The Examiner rejected claims 8-10, 15, and 16 under 35 USC 103(a) as being unpatentable over the article “Microstrip for RF/Microwave Applications” to Hong et al. (“Hong”) in view of US Patent No. 5,896,073 to Miyazaki et al. (“Miyazaki”), or JP07-094908 to Uchida Toshio et al. (“Toshio”). Applicants submit the Examiner has failed to establish a *prima facie* case of obviousness and traverse this rejection.

Hong merely teaches various configurations for TM or quasi-TM bandstop filters. Hong further discloses two different types of equivalent circuits, one having shunt series-resonant branches and the other having parallel series resonant branches (see Fig. 6-7).

Miyazaki merely teaches a high-frequency filter which can form a desired pole in a passing characteristic and can easily be assembled where the resonators and the jump coupling means in a filter are formed in the same dielectric plate (col. 4, line 7-15). Specifically, Miyazaki teaches that reference numeral 10a-10d denote strip conductors, each of a conduction film is formed in intimate contact with the other surface of the dielectric plate 8a. The strip conductors are arranged substantially in parallel as seen from the pattern shown in Fig. 22 (col. 16, lines 17-21).

Toshio merely teaches a filter which arranges attenuation poles in upper and lower limit parts of a frequency pass-band to attain a sharper filter characteristic by mutually connecting prescribed conductors in a filter pattern for a prescribed reactance element and using the prescribed reactance element as an electrostatic capacitor. The Examiner asserts that Toshio shows “a jump coupling circuit having a transmission/microslip line 27 or 37 coupling two non-adjacent resonators 5, 7.” (See Office Action, page 6, paragraph 4, lines 1-3.) Applicants submit that Toshio merely discloses that elements 5, 7 are conductors. Moreover, the abstract is silent with respect to teaching the jump coupling of resonators using a microslip/transmission line.

Given the inadequacy of the Abstract and the fact that the remaining portions of the disclosure of Toshio are not in English, Applicants respectfully request the Examiner provide a more complete explanation, with the appropriate portions of the references, which are relied

upon in support of the rejection provided in the English language in another non-Final Office Action, or withdrawn the rejection of this claim.

Applicants submit that neither Hong, Miyazaki and/or Toshio teach or suggest, either separately or in any combination, "a plurality of parallel resonant circuits each connected through separate transmission lines...and a jump coupling circuit for coupling two non-adjacent parallel resonant circuits...to each other," as recited in claim 8.

Accordingly, Applicants respectfully request the Examiner to withdraw the rejection of claim 8. Claims 9-10, 15, and 16 depend from claim 8 and are allowable at least by virtue of their dependency from allowable claim 8.

CONCLUSION

If the Examiner has any questions concerning this application, the Examiner is requested to contact the undersigned at the telephone number of (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Due: February 28, 2006

Respectfully submitted,

By _____
Michael K. Mutter
Registration No.: 29,680
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Rd
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant